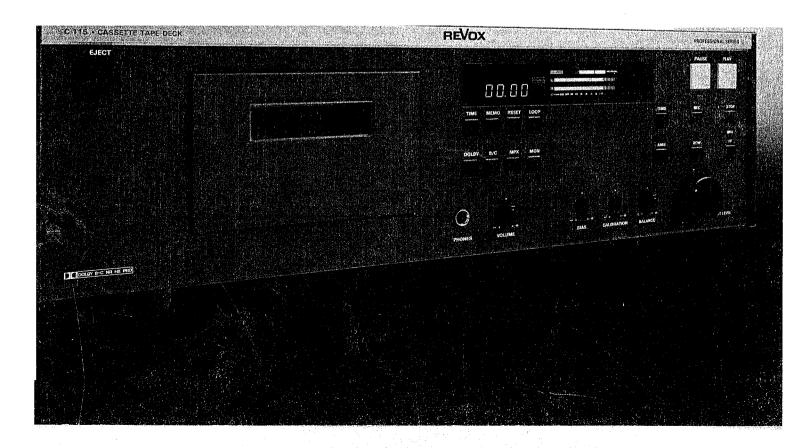
### C 115

## Professional Cassette Tape Deck





#### 2. ASSEMBLY / DISASSEMBLY

#### 2.1 General informations

Caution:

Disconnect the tape recorder from the AC power source before you remove any housing parts or electronic modules!



Important: Handling of MOS components:



MOS components can be destroyed by electrostatic discharges. When working on equipment containing MOS components, the following precautions should be observed:

- 1. Electrostatically sensitive components must be stored and transported in the corresponding protective packing.
- Avoid any contact of the pins with plastic packing material, styrofoam or other chargeable materials.
- 3. Do not touch the pins with an ungrounded wrist.
- 4. Use a grounded, conductive pad as a work surface.
- 5. Do not unplug or insert circuit boards while the cassette recorder is under voltage.

#### 2.1.1 Maintenance

All bearings are lubricated for life and require no maintenance.

#### 2.1.2 Required tools

1 Screwdriver	Size 1
1 Phillips screwdriver	Size 1
1 Phillips screwdriver	Size 2
1 "ESE" workplace kit	Part No. 46200

Note:

Line the bench with a piece of cotton cloth or similar to prevent marring of the housing

surfaces.

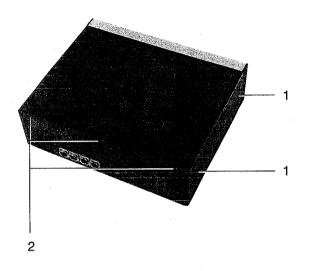
#### 2.1.3 Reassembly

The unit is reassembled analogously by performing the disassembly steps in the reverse order and by following the explicit assembly instructions.

#### 2.2 Disassembly

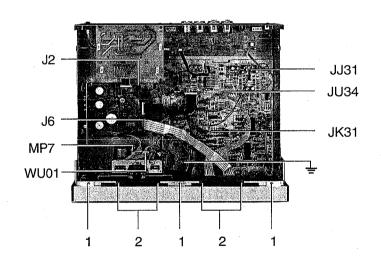
#### 2.2.1 Housing

 Unfasten two screws (1) on the side panel and three screws (2) on the back.
 Lift the cover and pull it off toward the back.



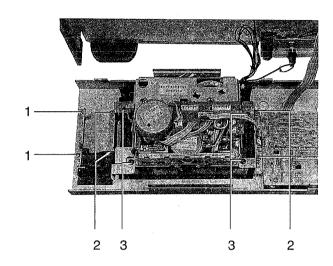
#### 2.2.2 Front Unit

- 1. For removing the front unit, the following connectors must be detached:
- J 6 on the power supply unit
- J 2 on the power supply unit
- MP 7 on the cassette deck
- WU 01 on the cassette deck
- JJ 31 on the audio board
- JK 31 on the audio board
- JU 34 on the audio boardGround screw on the audio board
- 2. Unfasten three screws (1) on the front trim strip and remove the strip.
- 3. Unfasten four screws (2) on the front unit.
- 4. Pull the front unit evenly upward (approx. ½ cm / ¼") until it disengages from the lower retainer.
- 5. Carefully move the front unit toward the front and set it on a piece of cotton cloth.



#### 2.2.3 Cassette deck assembly

- 1. Detach the connector MP 5 to the front unit.
- 2. Press the cassette eject button and lift off the cassette deck trim strip.
- 3. Unfasten the two screws (1) from the lever mechanism and remove the latter.
- 4. Unfasten the four screws (2) of the two mounting flanges (do not lose the washers).
- 5. The cassette deck and the cassette compartment can now be removed as a complete unit.
- 6. To detach the cassette compartment from the deck, unfasten the four screws (3), remove the mounting flanges, and carefully lift out the cassette deck.
- 7. By reassembling, make shure that the cassette compartment fits symmetrically the front pannel opening.



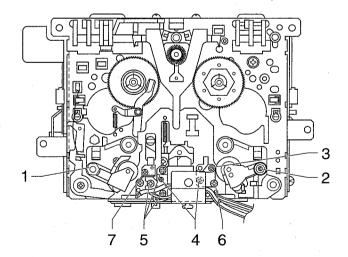
#### 2.3 Cassette deck mechanism

#### 2.3.1 Tape guide rollers

- 1 Fixing and adjusting nut of the left-hand tape guide roller
- 2 Fixing screw of the right-hand tape guide roller
- 3 Fixing and adjusting screw of the right-hand tape guide roller

#### 2.3.2 Soundheads

- 4 Two fixing screws of the record/reproduce head and the swivel plate.
- 5 Three adjusting screws for REC/PB head height and parallel alignment
- 6 Azimuth adjustment screw
- 7 Fixing screw for the erase head



#### 2.4 Electronic modules

For replacing electronic modules, open the recorder as described in Section 2.2.1.

For removing the front unit, proceed according to Section 2.2.2.

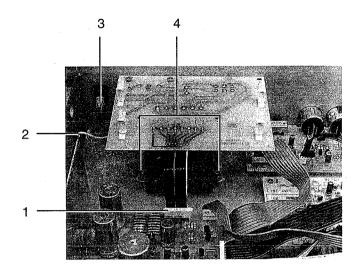
#### 2.4.1 Mains Unit

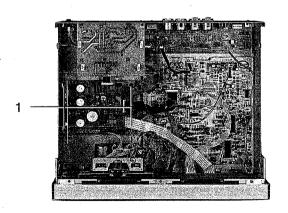
**Caution:** Pull out the AC power plug before you remove the mains unit.

- 1. Detach connector J 4 (1) on the power supply unit.
- 2. Remove the acrylic glass cover by pressing the clamping pins together.
- 3. Detach the ground connection (2) on the side panel and the two connectors (3) on the power switch.
- 4. Unfasten three screws on the back of the chassis, unfasten the two (4) of the power transformer and remove the mains unit.

#### 1.4.2 Power supply Unit

- 1. Detach the following connectors:
- J 1 of the mains unit
- J 3 of the audio board
- J 4 of the front unit
- J 2 of the front unit
- J 1/J 2 of the IN/OUT unit
- MP 7 on the cassette deck
- 2. Unfasten four screws (1) and remove the circuit board.



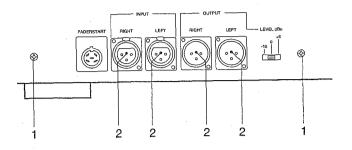


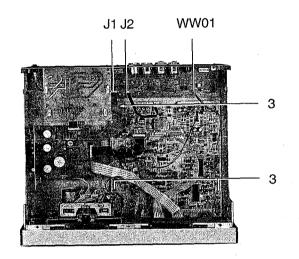
#### 2.4.3 iN / OUT Unit

- 1. Unsolder the connections of J 1 and J 2 on the circuit board. Unsolder the cable WW 01 (note the polarity).
- 2. Unfasten the two screws (1) on the back of the chassis.
- 3. Insert a screwdriver size 00 through the center hole of the input / output sockets (2) on the back of the chassis and turn the catch counterclockwise by 45.
- Lightly lift the IN/Out board and pull it forward by a short distance. Then release the catches at the inserts of the input connectors and remove the board completely.

#### 2.4.4 Audio board

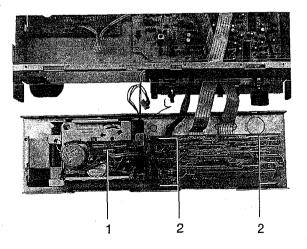
- 1. Detach the following connectors:
- J 2 of the IN/OUT unit
- WW 01 of the IN/OUT unit (unsolder)
- JU 34 of the front unit
- JJ 31, WU 01, JK 31 and GROUND of the cassette deck
- J 832 of the power supply unit
- 2. Unfasten four screws (3) and slide out the board toward the back.





#### 2.4.5 Front Unit

- 1. Detach the MP 5 (1) cable on the cassette deck.
- Unfasten seven screws (2) on the front unit (do not lose the washers), and carefully remove the board.
   Make sure that the red display trim strip does not get scratched.



#### 3. FUNCTIONAL DESCRIPTION

#### 3.1 Cassette deck

The cassette deck is equipped with a dual capstan drive. The controlled DC motor drives the righthand capstan shaft via a flat belt. From this shaft the left-hand capstan is driven by a second flat belt.

The capstan drive control is integrated in the motor housing. The capstan speed can be adjusted with a trimmer (--> 4.2.3).

The headblock assembly is actuated by the capstan motor via a cam disc. Coupling/decoupling is performed by a small solenoid.

The brakes are also controlled via a cam disc.

The spooling motor drives the spindles via a gear train. The left-hand or right-hand spindle is driven, depending on the selected spooling direction. Each spindle has its own light barrier that supplies the tape timer information to the microprocessor.

#### 3.2 Control

#### POWER SUPPLY:

The power supply Unit contains the power supply and the spooling motor drive.

The power supply generates the following voltages:

- +/-12 V DC for audio, stabilized a with rectifier (D 4 11) and voltage regulator (IC 1 and 2)
- +14 V DC unstabilized from the rectifier (D 12 19), for the capstan motor, the spooling motor and the solenoid.
- +5 V DC from the +14 V, stabilized by IC 3, for the processor control.
- 4,3 V AC (FIL) for the heating coil of the display
- -30 V DC from D 20 for the display.

If the 5 V supply drops below a certain value when the cassette recorder is switched off or in the event of a power failure, a reset is generated by the regulator IC 3.

IC 4 contains the drivers for the spooling motor. Depending on the cassette deck status, a corresponding voltage is applied to the spooling motor.

#### FRONT UNIT:

The front unit contains the input keypad as well as the microprocessor. The latter is responsible for scanning the keyboard, for controlling the display, and for calculating the tape timer and peak meter information.

A special feature of this processor are the high-voltage outputs through which the FIP can be controlled directly. The internal A/D converter is used for peak level measurement and for keyboard scanning.

#### 3.3 Audio electronics

#### **AUDIO BOARD**

The complete audio electronics is located on the audio board.

#### Recording section:

The input signal is taken via the volume control RV 01 to the Dolby B/C encoder Q 651. The multiplex filter is connected after the first linear state and switched on or off by means of the transistors Q 653 and Q 654. After a second stage within Q 651, the audio signal is taken to the monitor switch QT 51 (changeover between source and tape). The coded record signal is available on pins 21 and 22 of Q 651 and is taken via internal and external calibration potentiometers to the record amplifier QK 01. The latter is equipped with internal equalization selection switches. After the RF bias trap the RF is added to the AF signal via the transformers L 901 and L 902. The HX PRO circuit is implemented with IC Q 901 which contains the rectifier, the integral controller and the VCA. IC Q 921 is used for switching the HX PRO circuit on / off which in this recorder is continually on. This means that the HX PRO circuit always receives the signal after the two lowpass elements R 906 / C 902 and R 905 / 901. The erase oscillator is implemented as a push-pull stage and oscillates with a frequency of 105 kHz. It supplies the RF signal to the HX PRO circuit.

#### Reproduce section:

The reproduce signal is amplified in IC QJ 31 which features a low-noise FET input stage. The reproduce time constants are implemented in a push-pull stage and can be changed over between 70 and 120 µs (QJ 05 / 06). The output signal is taken to the level and treble control as well as to the Dolby B/C Decoder chip Q 601. The aggregate signal of the right-hand and left-hand channel is taken to the pause detection circuit implemented with QB 01. The output of the Dolby detector is taken to the monitor switch and to the peak meter amplifier QX 01, to the headphones volume control comprising the amplifier stage QG 01, and to the buffer amplifier IC 1 / IC 2 (on the IN/OUT unit).

The output level switch which controls Q 1...Q 4 has three positions:

- 10 dBu
  - 0 dBu
- + 6 dBu

The audio signal is subsequently taken to the balancing amplifier IC 3, IC 4 and finally to the XLR sockets output left/right.

#### 4. ALIGNMENT INSTRUCTIONS

#### 4.1 General information

Caution:

Shock hazard when the tape recorder is opened. Certain parts are energized with

line voltage!

#### 4.1.1 Tools

The following equipment and tools are required for the alignment work:

AF millivoltmeter

Part No. 46020

AF Generator

Part No. 46021

Demagnetizing choke:

- Large

Part No. 46595

- Small

Part No. 46596

Reproduce reference tape

Part No. 46034

Frequency counter

Part No. 46025

2-beam oscilloscope

Analog multimeter

Selective voltmeter or

Bandpass (fm =1kHz; BW ≤100 Hz)

**Tweezers** 

Screwdriver

Size: 00

Screwdriver

Size: 0

Screwdriver

Size: 2

Screwdriver

Size: 3

Hexagon-socket-screw key

Size: 2.5

Tape path alignment gauge

Part No.: 46172

Head face alignment cassette

Part No.: 46040

Wow and flutter

calibration cassette

Part. No.: 46037

#### 4.1.2 Demagnetization

Before any alignment work and in intervals of every few weeks, the cassette recorder should be demagnetized. Switch the cassette recorder off, make sure that no cassette is in the compartment and that no cassettes are located in the vicinity of the recorder. Slowly approach but do not contact the part to be demagnetized with the tip of the choke and after a short moment slowly retract the choke; or with a regulating transformer slowly increase the choke voltage to maximum and back to minimum. This procedure is to be performed for all metal parts (sound heads, tape guides) that come in contact with the tape. Before you switch off the choke remove it at least 50 cm from the cassette recorder.

Caution:

If the demagnetizing choke comes close to

recorded cassettes, the audio signals on the

cassettes will be destroyed.

#### 4.1.3 Level definitions

0 dBu ≙ 0 dB level

#### 4.2 Cassette deck alignments

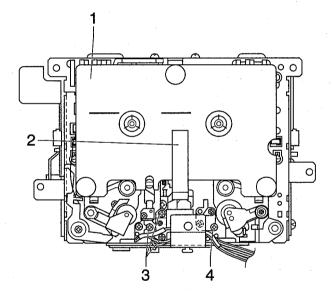
The tape deck is factory aligned. If the complete cassette deck is replaced, only an electronic azimuth check needs to be performed.

If realignment is necessary for any reason, the cassette tape deck must be removed. A soundhead alignment gauge (1) Part No. 46172 is required.

To remove the cassette tape deck proceed according to 2.2 / 2.3.

#### 4.2.1 Record / reproduce head

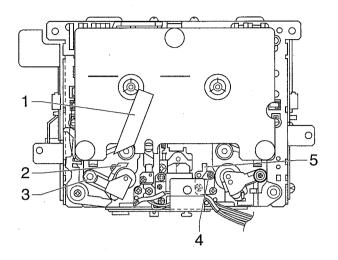
- 1. Check the height and parallel alignment of the soundheads with the aid of the vernier calipers (2).
- 2. Adjust the height and the parallel alignment with the three adjustment screws (3).
- 3. Correct the azimuth with the adjustment screw (4).
- Before reinstallation, carefully clean all cassette deck components and demagnetize the soundheads. (--> 4.1.2).
- For fine-adjustment install the cassette deck, remove the cassette deck trim strip, and play the reference cassette (Part No. 46034).
- 6. Align for minimum phase error with the azimuth adjustment screw (4), using the 10 kHz signal.



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#### 4.2.2 Tape guidance

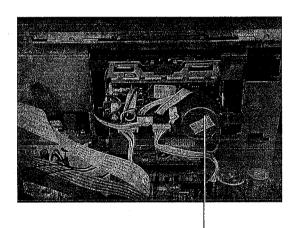
- 1. Check the height of the left-hand tape roller (2) with the aid of the vernier calipers (1).
- 2. If necessary, correct the setting with the adjustment nut (3).
- 3. Check the height of the right-hand guide (5) with the aid of the vernier calipers (1).
- 4. If necessary, correct the setting with the adjustment screw (4).



#### 4.2.3 Adjusting the capstan speed

The capstan speed can be adjusted while the cassette deck is installed.

- 1. Insert and play the alignment cassette.
- To adjust the speed, insert the screwdriver size 00 through the opening at the back of the motor housing (1) and turn the adjustment element. The speed should be adjusted within a tolerance of +/- 0.2%.

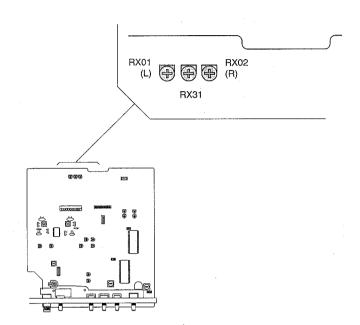


#### 4.3 Audio alignments

All adjustment controls for this work are located on the audio board.

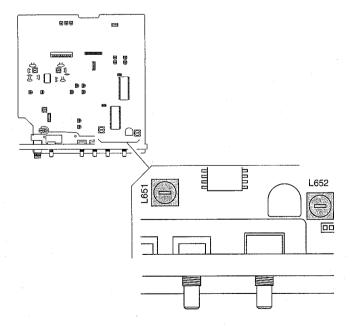
#### 4.3.1 Peak meter

- Connect the AF generator to the AUDIO IN sockets.
- Connect the AF millivoltmeter to the AUDIO OUT sockets L. R.
- Set the OUTPUT LEVEL switch to the 0 dBu position.
- Press the REC key to switch to SOURCE (Rec/ Pause).
- From the generator feed a 1 kHz sine-wave signal so that a level of 775mV appears on the output.
- With the trimmer RX 01 (left) and RX 02 (right) adjust to 0 dB
- Lower the input level by 35 dB and adjust the trimmer RX 31 in such a way that only the first segment lights up on the peak meter.



#### 4.3.2 Frequency response with tape, MPX filter

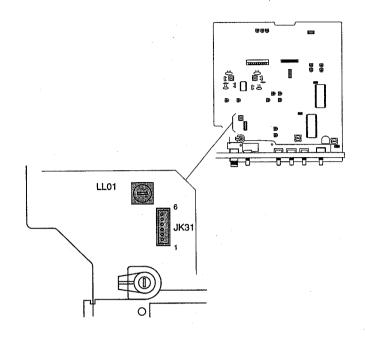
- Frequency response check (level 0 dB display, freq. 30 Hz - 18 kHz +/-1 dB)
- Feed 19 kHz 0 level 0 dB display to the INPUT sockets.
- Switch the recorder to REC/Pause by pressing the REC key.
- Switch on the MPX filter.
- Adjust the coils L 651 and L 652 to minimum level.
   The level should be attenuated by at least 30 dB.



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#### 4.3.3 Aligning the erase frequency

- Switch on the cassette recorder and activate the record mode.
- Connect the frequency counter to pin 6 of the edge connector JK 31.
- Adjust the frequency to 105 kHz by aligning the core of transformer LL 01.

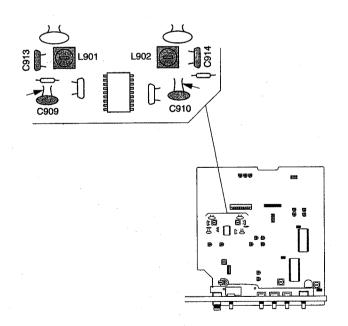


#### 4.3.4 Aligning the erase and record head

- Switch on the cassette recorder and activate play mode.
- Connect the oscilloscope with 10:1 probe to the intersection C 909 / 913.
- By tuning the core of transformer L901 align the resonant circuit of the left-hand channel to a clean sinusoidal shape.
- Connect the oscilloscope probe to the intersection C910 / 914.
- By tuning the core of the transformer L 902, align the sine-wave shape of the right-hand channel.

Note:

For the RF measurements described in Sections 4.3.3 and 4.3.4, the test points should be loaded with max. 20 pF, otherwise the adjustment will not be optimal.



#### 4.3.5 Playback

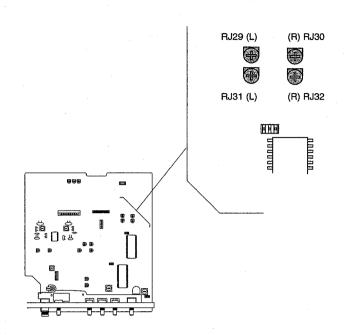
- Switch the cassette recorder off, thoroughly clean the tape guidance elements, and demagnetize the heads. (-> 4.1.2).
- Set the output level switch on the rear panel to "0 dBu"
- Insert the reproduce frequency response calibration cassette.
- Spool the reference tape forward to the 10 kHz section and start the recorder in play mode.
- Connect the LINE OUTPUT L and R to CH 1 and 2 of the oscilloscope and align the reproduce head to identical phase position of the channels.
- In the 315 Hz level tone section of the tape, align the reproduce level of the corresponding channel with the aid of the trimmers RJ 29 and RJ 30.
- The output level at "0 dBu" corresponds to 775 mV with a magnetic flux of 200 nWb/m, or 969 mV for a flux of 250 nWb/m.
- With the trimmer RJ 31 (left) and RJ 32 (right) align to a linear reproduce frequency response (0...+1 dB) at a frequency of 12.5 kHz.

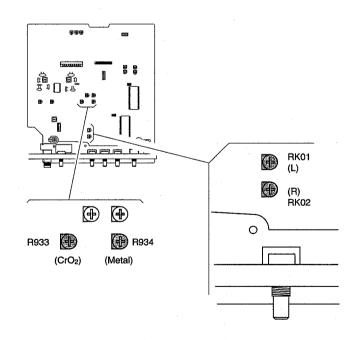
#### 4.3.6 BIAS and REC LEVEL alignment

- Turn the front-panel Bias-Cal and Level-Cal potentiometers to their center positions.
- Open the level trimmer potentiometers RK 01 and RK
   02 to approx. 2/3 of the maximum.
- Insert the IEC I cassette.
- Start the machine in record mode.
- Switch between 500 Hz and 12 kHz -20 dBu at the inputs.
- With the bias potentiometer align to a linear frequency response. (The correct value is determined by opening the potentiometer at 12 kHz from the counterclockwise stop position past the level maximum until the same value is measured as for 500 Hz.
- Feed 500 Hz and adjust the level with the trimmers RK 01 and RK 02 in such a way that the levels for source and tape are identical.
- For chromium dioxide tape and metal tape, align the bias in such a way that a linear frequency response is achieved. Only one bias setting is possible for both channels. R 933 for chromium dioxide and R 934 for metal tape. If bias corrections are required in the level or between the channels, these should be very small because they also influence the IEC I settings.

Note:

It is important to start the alignment with the IEC I tape in order not to influence the adjustments of the other tape types.





#### 4.4 Measurement of various ratings

#### 4.4.1 Distortion with tape

The distortion of cassette recorders is measured with a K3-filter (bandpass for 3rd harmonic). The AF generator frequency must be selected in accordance with the existing filter (e.g. 333 Hz for a filter frequency of 1000 Hz). The measurement relates to maximum output level.

- Connect the AF generator to the AUDIO IN socket.
- Set the frequency.
- Connect the distortion meter to AUDIO OUT.
- Insert a new tape. Start the cassette deck in record mode and measure the distortion. The maximum values can be found in the technical data (-> 5).

#### 4.4.2 Signal-to-noise ratio with tape

- The signal to noise ratios (linear and weighted) relate to 3% distortion.
- The measured values are specified in the technical data (-> 5).

#### 4.4.3 Erase depth

For measuring the erase depth, a signal is recorded and erased. The residual signal on the tape is measured selectively (narrow-band).

- Preselect an AF generator frequency of 1 kHz
- Connect a selective voltmeter (with 1 kHz bandpass) to OUTPUT.
- Record the signal with a level of 250 nWb/m
- Switch the generator off.
- Rewind the tape and start again in record mode.
- Measured value: better than -65 dB for type II.

#### 4.4.4 Crosstalk

- Measuring signal: 1 kHz / 0 dB.
- The measured value on the channel without signal should be better than -40 dB.

#### 4.4.5 Wow and flutter

 The wow-and-flutter values given in the specifications have been measured with a wow-and-flutter meter according to JIS in Playback mode.

#### **TECHNICAL DATA** 5.

Tape cassettes:

Compact cassettes up to C-120

Tape deck:

Dual capstan tape transport with controlled spooling drive. Separate head system for record and play-

back, ferrite erase head

Tape speed / tolerance:

1 7/8 ips ± 0.5 %

Tape slip:

< 03%

Wow and flutter:

< 0,1 % for C-60 and C-90 cassettes, in playback

mode (weigthed according to JIS)

Spooling time:

95 s for C-60 cassette

Tape timer:

switchable between:

min / sec (elapsed real time)

linear counter, 4 digits

**Automatic tape** type changeover:

For tape types I, II and IV

Recording system:

HX PRO \* Headroom Extension

Calibration aid:

With BIAS and LEVEL potentiometers via bargraph

Noise reduction system:

DOLBY B and C\*, Double-Dolby system for source

/ tape monitoring

Reproduce equalization:

Type I:  $3180 + 120 \,\mu s$ 

Type II:  $3180 + 70 \, \mu s$ 

Type IV:  $3180 + 70 \, \mu s$ 

Frequency response:

(with tape, -20 dB, Dolby NR = OFF) 30Hz...18 kHz ± 3dB

Type I: Type II:

30Hz...17 kHz ± 3dB

Type IV:

30Hz...17 kHz ± 3dB

Level Calibration:

200 nWb/m, corresponds to 0 dB = DOLBY level

Harmonic distortion:

at 200 nWb/m (k3 of 333 Hz)

Type I:

<1.0 % <1.5 % <1.5 %

Type II:

Type IV:

Signal-to-noise ratio

ref. to weighted 3% distortion:

Dolby C

Type I: Tape II:

> 73 dB (A) Type IV: > 73 dB (A)

> 72 dB (A)

Channel separation:

better than -40 dB @ 1 kHz

Bias / Erase frequency:

105 kHz

Erase efficiency:

> 65 dB @ 1 kHz (DOLBY C = ON)

Input AUDIO IN

Sensitivity:

70 mV for 200 nWb/m

Input impedance:

> 10 kohms

Max. input level:

10 V

Outputs:

AUDIO OUT: PHONES:

Values rel. to 200 nWb/m -10/0/+6 dBm. Ri = 50 ohms

max. 500 mV. Ri = 100 ohms

Faderstart, to be activated via 6-pole socket DIN 45322

Power requirements:

Special function:

Selectable for 2 ranges: 115 V, range = 90 to 130 V 230 V, range = 190 to 260 V

50...60 Hz

Power consumption:

Power fuse, primary:

for 115 V: T315 mA slow-blow

for 230 V: T315 mA slow-blow

**Environmental operating** 

conditions:

Ambient temperature +10 to +40°C

Rel. humidity category F according to DIN 40040

Operating position:

Horizontal installation

Weight:

7.5 kg net

External dimensions:

(WxHxD) w/o rack-mounting brackets 470 x 143 x 366 mm (height = 3 rack units)

Subject to change

The tape-specific specifications are achieved with modern high-quality cassettes. Values measured with:

• Type I (Ferro):

TDK AR-X

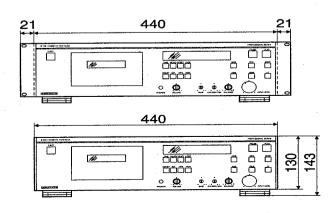
Type II (chromium):

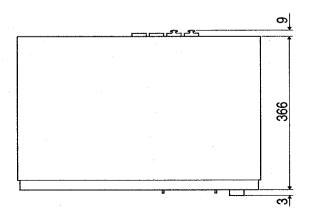
BASF Chrome Super II

Type IV (metal):

TDK MA

Dolby noise reduction and HX PRO headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX PRO was created by Bang & Olufsen. DOLBY, the double D symbol, and HX PRO are registered trademarks of Dolby Laboratories Licensing Corporation.







20.21.7102	<	SHEET METAL SCREW D.2.2 X4.5
		BLECHSCHRAUBE D.2.2 X4.5
		VIS A TOLE D.2.2 X4.5

20.23.7355 < SELF TAPPING SCREW D.3 X8

KERBSCHRAUBE D.3 X8

VIS AUTO-TARAUDEUSE D.3 X8

20.25.0103 < SELF TAPPING SCREW D.2.2 X6.5 KERBSCHRAUBE D.2.2 X6.5 VIS AUTO-TARAUDEUSE D.2.2 X6.5

21.26.0354 < PHILLIPS HEAD SCREW M3 X6
ZYLINDERSCHRAUBE KS M3 X6
VIS CYLINDRIQUE CRUCIF.M3 X6

21.46.0454 < TORX HEAD SCREW M4 X6
ZYLINDERSCHRAUBE TORX M4 X6
VIS CYLINDRIQUE TORX M4 X6

21.47.0354 < TORX HEAD SCREW M3 X6 BLK
ZYL.SCHRAUBE TORX M3 X6 BLK
VIS CYLIND. TORX M3 X6 BLK

24.16.2030 < STAR WASHER
FAECHERSCHEIBE
RONDELLE GROWER

50.03.0350 < TRANSISTOR J112 = MPF4392

50.03.0351 < TRANSISTOR 2N4403 = BC327-25

50.03.0496 < TRANSISTOR BC560 SEL. 100MA

50.03.0504 < TRANSISTOR BD679=BDW63

50.03.0524 < TRANSISTOR BC550 E6310 100MA

50.04.0105 DIODE 1N-4004 E 50.04.0502

50.04.0125 < DIODE OF-159 = 1N-4448

50.04.0133 < DIODE BAW-20

50.04.0502 < DIODE 1N-4005

50.04.1103 < ZENER DIODE 7.5V DIODE ZENER 7.5V

50.04.1112 < ZENER DIODE 5.1V DIODE ZENER 5.1V

50.04.1123 < ZENER DIODE 4.7V DIODE ZENER 4.7V

50.04.1145 < ZENER DIODE 9.1V DIODE ZENER 9.1V

50.04.2701 < LED MV-57123 = SPR-5551REC RED

50.04.2702 < LED MV-53123 = SPY-5551REC YEL

50.04.2703 < LED MV-54123 GRN

50.09.0105 E 50.09.0106

50.09.0106 < IC NE-5532A = RC-5532ANB CI NE-5532A = RC-5532ANB

50.10.0104 < IC LM-317 CI LM-317

50.10.0105 < IC LM-337 CI LM-337

50.17.1132 < IC MC-74HC132AN CI MC-74HC132AN

50.43.0350 E 50.03.0350

50.43.0351 E 50.03.0351

50.43.0436 E 50.03.0524

50.43.0515 E 50.03.0496

50.99.0126 < OPTO-COUPLER 4N-28 = 4N-26 OPTO-KOPPLER 4N-28 = 4N-26 OPTO-COUPLEUR 4N-28 = 4N-26

51.01.0112 < FUSE 0.3A SICHERUNG 0.3A FUSIBLE 0.3A

51.01.0114 < FUSE 0.5A SICHERUNG 0.5A FUSIBLE 0.5A

53.03.0142 < FUSE HOLDER 1/2 PCB MOUNT. SICHERUNGSHALTER PRINTBEF. 1/2 PORTE FUSIBLE CIR.IMPR. 1/2

53.03.0364 < IC SOCKET 64-P.
IC SOCKEL 64-P.
SOCLE CI 64-P.

54.20.2001 < SOCKET DIN 6-P. PCB MOUNT. EINBAUBUCHSE 6-P. PRINTBEF. PRISE DIN 6-P. CIRCUIT IMPRIME

54.21.1014 < PLUG DIN MAS-60 STECKER DIN MAS-60 FICHE DIN MAS-60

54.21.2200 < CHASSIS PLUG XLR HOR. EINBAUSTECKER XLR WGR. FICHE CHASSIS XLR HOR.

54.21.2201 < CHASSIS SOCKET XLR HOR. EINBAUBUCHSE XLR WGR. PRISE CHASSIS XLR HOR.

54.42.0020 < MAINS CONN. IEC-320 3-P.HOR.
NETZANSCHLUSS IEC.320 3-P.WGR.
PRISE SECTEUR IEC-320 3-P.HOR.

54.99.0143 E 54.21.1014

55.03.0287 < SWITCH POWER .

NETZSCHALTER

INTERRUPTEUR SECTEUR

55.12.0003 < SLIDE SWITCH
SCHIEBESCHALTER
COMMUTATEUR A GLISSIERE

55.17.1000 < SLIDE SWITCH 2X U SCHIEBESCHALTER 2X U INTERRUPTEUR A GLISSIERE 2X U



55.99.0158 < PULSE SWITCH IMPULSSCHALTER INTER.IMPULSION				59.41.5470	E 59.22.6470
				59.41.6100	E 59.22.8100
57.19.0100 < FUSE RESISTOR 10E SICHERUNGSWIDERSTA RESISTANCE FUSIBLE				59.41.6220	E 59.22.6220
	LIUL			59.41.8229	E 59.22.8229
57.19.0109 < FUSE RESISTOR 1E SICHERUNGSWIDERSTA RESISTANCE FUSIBLE				59.41.8479	E 59.22.8479
RESISTANCE FUSIBLE	. 10			62.02.3479	< RF CHOKE 4.7UH
57.19.0151 < FUSE RESISTOR 150E SICHERUNGSWIDERSTA RESISTANCE FUSIBLE	ND 150E				DROSSEL 4.7UH BOBINE DE CHOC 4.7UH
				62.42.3479	E 62.02.3479
57.19.0560 < FUSE RESISTOR 56E SICHERUNGSWIDERSTA	ND 56E			1.010.011.55	< PUSHBUTTON 17
RESISTANCE FUSIFLE					DRUCKTASTE 17 TOUCHE 17
59.22.4221 < CAPACITOR EL.					
KONDENSATOR EL. CONDENSATEUR EL.				1.010.012.55	PUSHBUTTON 10 BLK DRUCKTASTE 10 BLK TOUCHE 10 BLK
59.22.4471 < CAPACITOR EL.	470UF	16V			
KONDENSATOR EL.				1.010.021.23	< WASHER PAPER 4.3 X7.5 X1
CONDENSATEUR EL.	4/0UF	167			UNTERLAGSCHEIBE HP 4.3 X7.5 X1 RONDELLE PAPIER 4.3 X7.5 X1
59.22.4472 < CAPACITOR EL.					
KONDENSATOR EL. CONDENSATEUR EL.		16 <b>V</b>		1.010.059.21	OVAL HEAD SCREW TORX M4 X14 LINSENZYL.SCHR.TORX BLK M4 X14 VIS BOMBEE TORX BLK M4 X14
59.22.5101 < CAPACITOR EL.	100UF				VIS BONDEL FORK BER MY XIT
KONDENSATOR EL.	100UF			1.721.490.01	< AUDIO PCB
CONDENSATEUR EL.					PRINT AUDIO CARTE AUDIO
59.22.5222 < CAPACITOR EL.				1 701 400 00	TARE TRANSPORT
KONDENSATOR EL. CONDENSATEUR EL.	2200UF 2200UF			1.721.490.02	< TAPE TRANSPORT LAUFWERK MECANISME
59.22.6220 < CAPACITOR EL.					
KONDENSATOR EL.				1.721.490.03	< MAINS TRANSFORMER
CONDENSATEUR EL.	22UF	40V			NETZTRANSFORMATOR TRANSFO.ALIMENTATION
59.22.6470 < CAPACITOR EL.	47UF			1 701 400 10	TO MOTOR CONTROL
KONDENSATOR EL. CONDENSATEUR EL.	47UF 47UF			1.721.490.18	< IC MOTOR CONTROL IC MOTORREGELUNG
59.22.8100 < CAPACITOR EL.	10UF				CI REGULATEUR MOTEUR
KONDENSATOR EL.	10UF			1.721.490.19	< IC +5V REGULATOR
CONDENSATEUR EL.	10UF				IC +5V REGELUNG CI REGULATEUR +5V
59.22.8221 < CAPACITOR EL.	220UF			1 701 400 01	- DZCDI AV
KONDENSATOR EL. CONDENSATEUR EL.	220UF 220UF			1.721.490.21	ANZEIGE
59.22.8229 < CAPACITOR EL.	2.2UF	50 <b>V</b>	*		AFFICHAGE
KONDENSATOR EL.	2.2UF			1.721.490.24	< MICROPROCESSOR
CONDENSATEUR EL.	2.2UF				MIKROPROZESSOR MICROPROCESSEUR
59.22.8479 < CAPACITOR EL.	4.7UF			1 701 100 07	· MANON
KONDENSATOR EL. CONDENSATEUR EL.	4.7UF 4.7UF			1.721.490.27	DREHKNOPF BOUTON
59.40.0103 < CAPACITOR	10NF				
KONDENSATOR CONDENSATEUR	10NF 10NF			1.721.520.08	<pre>&lt; ROCKER / EJECT BUTTON WIPPE / AUSLOESETASTE</pre>
59.41.2221 E 59.22.4221					BASCULE RENVOI/TOUCHE EJECT
				1.721.600.00	
59.41.3101 E 59.22.5101					PRINT AUDIO CARTE AUDIO
59.41.4221 E 59.22.4221					



- 1.721.600.01 < POTMETER 100K POTENTIOMETRE 100K
- 1.721.720.01 < FRONT PANEL FRONTPLATTE PLAQUE FRONTALE
- 1.721.720.02 < FRONT PROFILE TOP SECTION FRONTPROFIL OBEN PROFIL FRONTALE SUPERIEUR
- 1.721.720.03 < GLASS PANEL GLASSCHEIBE FENETRE
- 1.721.720.04 < GUIDE / PUSHBUTTON TASTENFUEHRUNG GUIDE DE TOUCHE
- 1.721.720.05 < PUSHBUTTON EJECT AUSLOESETASTE TOUCHE EJECT
- 1.721.720.07 < EXTENSION / PUSHBUTTON TASTENVERLAENGERUNG RALLONGE DE TOUCHE
- 1.721.720.14 < WEDGE RIGHT
  ABSCHLUSSTEIL RECHTS
  MONTANT DROIT
- 1.721.720.15 < WEDGE LEFT
  ABSCHLUSSTEIL LINKS
  MONTANT GAUCHE
- 1.721.720.19 < BUTTON STECKWELLE
- 1.721.720.20 < KNOB

  DREHKNOPF
  BOUTON
- 1.721.720.25 < FRONT .. TUERBLENDE
- 1.721.790.05 < PUSHBUTTON SWITCH 2X A
  DRUCKTASTENSCHALTER 2X A
  INTERRUPTEUR POUSSOIRE 2X A
- 1.747.500.05 < F00D FUSS PIED
- C115 / 25.05.92 C115 BR.



#### 1.721.750.00 MAINS UNIT C115

Ad ..Pos.. ...Ref.No... Description ...... C.....2 59.14.3222 2.2 nF 20%, 440VAC, Y 59.14.3222 2.2 nF 20%, 440VAC, Y 51.01.0112 T315mA F....1 MP....1 1.721.750.11 Mains Unit PCB 53.03.0145 Fuseholder MP....2 MP....3 1.726.780.01 Holder Tubular Rivet 28.21.2405 MP....4 MP....5 1.721.750.01 MP....6 28.21.2408 Holder Tubular Rivet 2 pcs 54.42.0020 Mains Connector Mains Switch 55.17.1000 S....2 W.....1 1.721.490.10 Jumper Lead 8-pole W.....2 1.721.750.93 Wire List 00 PS 91/10/03

END

200

#### 1.721.760.00 POWER SUPPLY C 115 ESE

Ad ..Pos.. ...Ref.No... Description ...... 59.22.6100 c....1 C....2 59.22.6100 10 uF -20%. 357. EL 59.22.6100 10 uF -20%, C....3 C....4 59.22.6100 10 aF -20%. 35V. EL 59.06.0224 PETE C....5 59.06.0104 100 nF PETP C....6 10%, 63V, C.....7 59.06.0104 59.22.4471 100 nF 470 uF 10%, 637, PETP 16V. C.....8 -20%. EL 59.22.5222 2.2 mF 25V, ¢....9 C....10 59.22.5222 2.2 af -20% 25V. 4.7 mf C....11 59.22.4472 -20%, 167, 59.22.5472 -20%. C....12 257. EL 59.06.0104 59.06.0104 100 nF 10%, 63V, PFTF 100 nF 10%, PETP C....14 63V. 59.22.8221 59.22.8229 220 uf 2.2 uf -20%, -20%, 63V, C....16 C....17 59.22.8479 59.06.0223 4.7 uf 22 nF -20%, 63V, EL PETP C....18 59.06.0103 50.04.0105 C....19 10 nF 10%, 63V, PETP IN 4004 D.....1 IN 4004 IN 4004 50.04.0105 50.04.0105 D.....3 D....4 50.04.0105 1N 4004 50.04.0105 1N 4004 D.....5 50.04.0105 1N 4004 SI 50.04.0105 D.....7 any any 0....8 50.04.0105 1N 4004 SI 50.04.0105 1N 4004 D.....9 50.04.0105 1N 4004 SI 50.04.0105 D....11 D....12 50.04.0105 1N 4004 SI any any 50.04.0105 1N 4004 SI D....13 any any 50.04.0105 1N 4004 ST 50.04.0105 IN 4004 0....15 D....16 50.04.0105 1N 4004 any any 50.04.0105 D....17 D....18 50.04.0105 IN 4004 SI 50.04.0105 D....19 D....20 50.04.0133 BAV 20 SI any any 50.04.0133 D....21 any any any any 50.04.0125 1N 4448 Sĭ 50.04.0125 D....23 D....24 D....25 50.04.0125 IN 4448 SI 50.04.0105 any any any D....26 50.04.0105 1N 4004 SI D....27 50.04.0125 DV....1 50.04.1103 7.5 V 5%, 0.50W 50.04.1112 5%, 0.50W DV....2 5%, 0.50W DV....3 50.04.1103 7.5 V any 50.04.1123 4.7 V T500mA 5%, 0.50W DV....4 F....1 51.01.0114 Fuse IC....1 50.10.0104 LM 317T +1.2-37 V , 1.5A , V-Reg. NS.TI -1.2-37 V , 1.5A , V-Reg. LM 337T IC....2 50.10.0105 NS.TI IC....3 Voltage Regulator IC....4 1.721.490.18 BA6219 Motor Controller J.....1 1.721.490.07 Jack Jumper Socket 8-pole J....2 54.12.0405 Socket 5-pol 1.721.490.08 Jack Jumper Socket 9-pole J.....3 Jack Flat Cable 17-pole J.....4 1.721.490.09 MP....1 1.721.760.11 Power Supply PCB MP....2 1.746.220.04 Heatsink MP....3 1.746.220.06 Thermoplastic-foil

₩P4	21.99.0180	2 pcs	Screw M3*5 rustless
MP5	50.20.2003	3 pcs	Clamp for TO 220 Case
MP6	53.03.0142	2 pcs	Fuseholder
MP7	1.721.490.12	00 2070	Connective Cord 6-pole Small Signal PNP
Q1	50.03.0515	BC 307B	
Q2	50.03.0515	BC -307B	•
03	50.03.0436	BC 2378	Small Signal NPN Small Signal NPN
Q4	50.03.0436	BC 2378	
0,5	50.03.0436	BC 237B	Small Signal NPN Small Signal NPN
06	50.03.0436 50.03.0504	BC 2378 BD 679	Darlington MPN
Q7 Q8	50.03.0504	BD 679	Darlington NPN
Q9	50.03.0436	BC 237B	Small Signal NPN
Q10	50.03.0436	BC 237B	Small Signal NPN
Q11	50.03.0436	BC 2378	Small Signal MPN
Q12	50.03.0515	BC 3078	Small Signal PNP
R1	57.11.3221	220 Ohm	1%, 0.25W, MF
R2	57.11.3182	1.8 kOhm	1%, 0.25W, MF
R3	57.11.3182	1.8 kOhm	1%, 0.25W, MF
R4	57.11.3221	220 Ohm	1%, 0.25W, MF
R5	57.19.0100	10 Oh∎	0.33W, Fusible Resistor
R6	57.19.0109	1 Ohm	0.33W, Fusible Resistor
R7	57.19.0109	1 0hm	0.33W, Fusible Resistor
R8	57.19.0109	1 0hm	0.33M, Fusible Resistor
R9	57.19.0109	1 0hm	0.33W, Fusible Resistor
R10	57.19.0560	56 Ohma	0.33₩, Fusible Resistor
R11	57.19.0109	1 Ohm	0.33W, Fusible Resistor
R12	57.19.0109	1 Ohm	0.33W, Fusible Resistor
R13	57.19.0151	150 Ohm	0.33W, Fusible Resistor
R14	57.19.0151	150 Ohm	0.33W, Fusible Resistor
R15	57.11.3103	10 k0hm	1%, 0.25W, MF
R16 R17	57.11.3104	100 k0hm	1%, 0.25W, MF 1%, 0.25W, MF
R18	57.11.3104 57.11.3104	100 k0hm 100 k0hm	1%, 0.25W, MF 1%, 0.25W, MF
R19	57.11.3102	1 k0hm	1%, 0.25W, MF
R20	57.11.3682	6.8 kOhme	1%, 0.25W, MF
R21	57.11.3103	10 kOhm	1%, 0.25W, MF
R22	57.11.3223	22 k0hm	1%, 0.25W, MF
R23	57.11.3223	22 kOhm	1%, 0.25W, MF
R24	57.11.3223	22 kOhm	1%, 0.25W, MF
R25	57 .11 .3103	10 kOhm	1%, 0.25W, MF
R26	57.11.3222	2.2 kOhm	1%, 0.25W, MF
R27	57.11.3223	22 k0hm	1%, 0.25₩, MF
R28	57.11.3473	47 k0hm	1%, 0.25W, MF
R29	57.11.3472	4.7 kOhma	1%, 0.25W, MF
R30	57.11.3103	10 kOhm	1%, 0.25W, MF
R32	57.11.3393	39 k0hm	1%, 0.25W, MF
R33	57.11.3473	47 kOhm	1%, 0.25W, MF
R34	57.11.3473	47 k0hm	1%, 0.25W, MF
R35	57.11.3103	10 k0hm	1%, 0.25W, MF
R36	57.11.3103	10 k0hm	1%, 0.25W, MF
R37	57.11.3223	22 k0hm	1%, 0.25W, MF
R38	57.11.3103	10 k0hm	1%, 0.25W, MF
W4	1.721.760.94		Flat Cable

00 PS 91/10/04

EL=Electrolytic, CER=Ceramic, PETP=Polyester, SI=Silicon, MF=Metalfilm

Manufacturer: MS=National Semiconductors, II=Texas Instruments MOT-Motorola, Ph-Philips, St-Studer, SGT-SGS Thomson END

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1.721.761.00 IN-OUT UNIT C115 ESE
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A.d	Pos	Ref.No	Description												
Αu			Description						•••						
		ra na cona	005	000	251	F1					0 5	67 11 2162	16 101-	1% A 25U ME	
	C1	59.22.6220	22 uF	-20%	35V	EL					R5	57.11.3153 57.11.3564	15 kOhm 560 kOhm	1% , 0.25W , MF 1% , 0.25W , MF	
	C2 C3	59.22.6220 59.06.0104	22 uF 100 nF	-20% 10%	35V 63V	EL PETP					R7	57.11.3104	100 k0hm	1% , 0.25W , MF	
	Ç4	59.06.0104	100 nF	10%	63V	PETP					R8	57.11.3105	1 HOhm	1% , 0.25W , MF	
	C5	59.22.3101	100 uF	-20%	100	EL					R9	57.11.3362	3.6 kOhm	1% , 0.25W , MF	
	C6	59.22.3101	100 uF	-20%	107	EL					R10	57.11.3152	1.5 kOhm	1% , 0.25W , MF	
	C7	59.22.3101	100 uF	-20%	107	EL					R11	57.11.3152	1.5 kOhm	1% , 0.25W , MF	
	C8	59.22.3101	100 uF	-20%	107	EL					R12	57.11.3362	3.6 k0hm	1% , 0.25W , HF	
	c9	59.06.0104	100 nF	10%	63V	PETP					R13	57.11.3105	1 MOhm	1% , 0.25W , MF	
	C10	59.06.0104	100 nF	10%	63V	PETP					R14	57.11.3564	560 k0hm	1% , 0.25W , MF	
	C11	59.34.4151	150 pF	10%	63¥	CER					R15	57.11.3153	15 k0hm	1% , 0.25W , MF	
	C12	59.34.4271	270 pF	10%	63¥	CER					R16	57.11.3105	1 MOhm	1% , 0.25W , MF	
	C13	59.32.4681	680 pF	20%	5 <b>0</b> ¥	CER					R17	57.11.3272	2.7 kOhm	1% , 0.25W , MF	•
	C14	59.32.4681	680 pF	20%	50V	CER					R18	57.11.3682	6.8 kOhm	1% , 0.25W , MF	
	C15	59.06.0104	100 nF	10%	63V	PETP					R19	57.11.3302	3 k0hm	1% , 0.25W , HF	
	C16	59.06.0104	100 nF	10%	63V	PETP					R20	57.11.3302	3 k0hm	1% , 0.25W , MF	
	C17	59.32.4681	680 pF	20%	50V	CER					R21	57.11.3150	15 Ohm	1% , 0.25W , MF	
	C18	59.32.4681	680 pF	20%	50V	CER					R22	57.11.3302	3 k0hm	1% , 0.25W , NF	
	C19	59.34.4151	150 pF	10%	63V	CER					R23	57.11.3150 57.11.3689	15 0hm 6.8 0hm	1% , 0.25W , MF 1% , 0.25W , MF	
	C20	59.34.4271	270 pF 680 pF	10%	63V 63V	CER PP					R24 R25	57.11.3689	6.8 Ohm	1% , 0.25W , MF	
	C21	59.05.1681 59.05.1681	680 pF	1% 1%	63V	PP					R26	57.11.3302	3 k0hm .	1% , 0.25W , MF	
	C22	59.34.4560	56 pF	10%	63V	CER					R27	57.11.3302	3 kOhm	1% , 0.25W , MF	
	C24	59.34.4560	56 pF	10%	637	CER					R28	57.11.3302	3 k0hm	1% , 0.25W , MF	
	C25	59.05.1681	680 pF	18	63V	PP					R29	57.11.3302	3 kOhm	1% , 0.25W , MF	
	C26	59.05.1681	680 pF	1%	63V	PP					R30	57.11.3152	1.5 kOhm	1% , 0.25W , MF	
	C27	59.22.8479	4.7 uF	-20%	25V	EL					R31	57.11.3302	3 kOhm	1% , 0.25W , MF	
	C28	59.06.0105	1 uF	10%	637	PETP					R32	57.11.3152	1.5 kOhm	1% , 0.25W , MF	
	C29	59.06.0223	22 nF	10%	63V	PETP					R33	57.11.3302	3 k0hm	1% , 0.25W , MF	
	C30	59.22.5470	47 uF	-20%	25V	EL					R34	57.11.3302	3 k0hm	1% , 0.25W , MF	
	C31	59.22.2221	220 uF	-20%	6V	EL					R35	57.11.3302	3 k0hm	1% , 0.25W , MF	
	C32	59.22.2221	220 uF	-20%	<b>6V</b>	EL					R36	57.11.3150	15 Ohm	1% , 0.25W , MF	
	C33	59.22.2221	220 uF	-20%	6¥	EL					R37	57.11.3302	3 k0hm	1% , 0.25W , MF	
	Ç34	59.22.2221	220 uF	-20%	6¥	EL					R38	57.11.3150	15 Ohm	1% , 0.25W , MF	
	C35	59.06.0104	100 nF	10%	63¥	PETP					R39	57.11.3689	6.8 0hm	1% , 0.25W , MF	
	C36	59.06.0104	100 nF	10%	63V	PETP					R40	57.11.3689	6.8 Ohm	1% , 0.25W , MF	
	C37	59.06.0104	100 nF	10%	63₹	PETP					R41	57.11.3302	3 kOhm	1% , 0.25W , MF	
	C38	59.06.0104	100 nF	10%	63V	PETP					R42	57.11.3302	3 k0hm	1% , 0.25W , MF	
	D1	50.04.0125	1N 4448				SI		any		R43	57.11.3302	3 k0hm	1% , 0.25W , MF	
	D2	50.04.0125	IN 4448				SI		any		R44	57.11.3302	3 k0hm	1% , 0.25W , NF	
	D3	50.04.0125	IN 4448				SI		any		R45	57.11.3152	I.5 kOhm	1% , 0.25W , NF	
	D4	50.04.0125	IN 4448				SI		any		R46	57.11.3302	3 k0hm	1% , 0.25W , MF 1% , 0.25W , MF	
	D5	50.04.0125	1N 4448				SI		any		R47	57.11.3152	1.5 k0hm 3 k0hm		
	D6 IC1	50.04.0125 50.09.0105	1N 4448 NE 5532	Onan	ationa	l-Amplific	SI		any Sia		R48 R49	57.11.3302 57.11.3152	1.5 k0hm	1% , 0.25W , MF 1% , 0.25W , MF	
	IC2	50.09.0105	NE 5532			l-Amplifia			Sig Sig		R50	57.11.3152	1.5 kOhm	1% , 0.25W , MF	
	103	50.09.0105	NE 5532			l-Amplifie			Sig		R51	57.11.3392	3.9 kOhm	1% , 0.25W , MF	
	IC4	50.09.0105	NE 5532	-		l-Amplifie			Sig		R52	57.11.3272	2.7 k0hm	1% , 0.25W , MF	
	IC5	50.09.0105	NE 5532			l-Amplifie			Sig		R53	57.11.3392	3.9 k0hm	1% , 0.25W , MF	
	IC6	50.99.0126	4N 28		cal Co				HOT		R54	57.11.3272	2.7 kOhm	1% , 0.25W , MF	
	IC7	50.17.1132	74 HC 132	2-Ing	put Sci	mitt Trig	gger NAND Gat	te			R55	57.11.3272	2.7 kOhm	1% , 0.25W , MF	
	J1	54.12.0405		Socke	et 5- <sub> </sub>	pole					R56	57.11.3392	3.9 k0hm	1% , 0.25W , MF	
	J2	54.12.0405		Socke	et 5- <sub>l</sub>	pole					R57	57.11.3392	3.9 kOhm	1% , 0.25W , MF	
	J3	54.12.0403		Socke	et 3- <sub>1</sub>	pole					R58	57.11.3152	1.5 k0hm	1% , 0.25W , MF	
	J4	54.21.2201				3-pole					R59	57.11.3152	i.5 kOhm	1% , 0.25W , MF	
	J5	54.21.2201				3-pole					R60	57.11.3272	2.7 kOhm	1% , 0.25W , MF	
	J6	54.20.2001				6-pole					R61	57.11.3561	560 0hm 2.7 k0hm	1% , 0.25W , MF	
	JS1	54.01.0021		Jumpe							R62	57.11.3272		14 , 0.25N , MF	
	JS2	54.01.0021 62.02.3479	4.7 uH	Jumps HF-Ci							R63 R64	57.11.3104 57.11.3102	100 k0hm 1 k0hm	1% , 0.25W , MF 1% , 0.25W , MF	
	L1		4.7 un		it PCI	,					R65	57.11.3102	100 k0hm	1% , 0.25W , MF	
		1.721.761.11	2 pcs	Holde		•					R66	57.11.3102	1 kOhm	1% , 0.25W , MF	
	MP3	28.21.2405	2 pcs		lar Riv	/et					R80	57.11.3302	3 kOhm	1% , 0.25W , MF	
	MP4	20.21.7102	4 pcs			* 4.5mm					R81	57.11.3302	3 kOhm	1% , 0.25W , MF	
	P1	54.01.0020			act-Pi						R82	57.11.3302	3 k0hm	1% , 0.25W , MF	
	P2	54.01.0020			act-Pi						R83	57.11.3302	3 kOhm	1% , 0.25W , MF	
	P3	54.01.0020		Conta	act-Pi	1 .					R84	57.11.3302	3 k0hm	1% , 0.25W , MF	
	P4	54.01.0020			ct-Pi						R85	57.11.3302	3 k0hm	1% , 0.25W , HF	
	P5	54.01.0020		Conta	act-Pi	1					S1	55.12.0003		Switch	
	P6	54.01.0020			act-Pia										
	P7	54.21.2200				3-pole					00 PS 91/10/	04			
	P8	54.21.2200				3-pole									
	Q1	50.03.0350	J 112		annel I								ic, PETP*Pol	yester, SI=Silicon,	MF=Metalfil
	Q2	50.03.0350	J 112		annel 1						PP=Polypropil	en			
	Q3	50.03.0350	J 112		annel (						H	DC-0-42	Camil and 4.5.	TI-Tav 7	
	Q4	50.03.0350	J 112 .		onnel i						namuracturer:			rs, II=Texas Instru , St=Studer, SGT=SG	
	R2	57.11.3682 57.11.3272	6.8 k0hm 2.7 k0hm		0.25W	-						Sig=Signetics		, sc-scader, saresu	o isiom2011
	R3	57.11.32/2	2.7 kUhm 100 kUhm		0.25W							org organization	•		
	R4	57.11.3104	1 MOha		0.25W						END				
				•											



1000

#### 1.721.790.00 FRONT UNIT C115

ESE

i	Pos	Ref.No	Description	
	C1	59.32.1102	1 nF	10%, 50V, CER
	C2	59.32.1102	4.7 sF	10%, 50V, CER -20%, 50V, EL
	C3	59.22.8479	4.7 uF	-20%, 50V, EL
	C4	59.22.8229	2.2 uF	-20%, 25V, EL
	C5	59.22.8479	4.7 uF	-20%, 25V, EL
	c6	59.22.4221	220 uF	-20%, 16V, EL
	C7	59.06.0152	1.5 nF	10%, 25V, PETP
	C8 C9	59.34.5561 59.34.5561	560 pF 560 pF	10%, 50V, CER 10%, 50V, CER
	C10	59.22.8229	2.2 aF	-20%, 25V, EL
	D1	50.04.0125		1N 4448
	D2	50.04.0125		1N 4448
	DL1	50.04.2702		MV 53123, LED yellow
	DL2	50.04.2701		NV 57123, LED red
	DV1	50.04.2703 50.04.1145	9.1 V	MV 54123, LED green Z, 5% , 0.50W
		1.721.490.24	, ·	M8 88515B Microprocessor
		1.721.490.06		Jack Flat Cable 17-pole
		1.721.490.06		Jack Flat Cable 17-pole
		1.721.790.11		FRONT UNIT PCB
		1.721.490.21		VF-Display
		1.721.490.22		Display Holder Sticker
		1.721.490.29		Connective Cord 5-pole
	MP6	53.03.0364		IC-Socket 64-pole
	MP7	50.20.2799	3 pcs	LED-Holder 1=13.7
	Q1	50.03.0436	BC237B	Small Signal NPN any
	Q2 Q3	50.03.0436 50.03.0515	BC237B BC307B	Small Signal NPN any Small Signal PNP any
	Q4	50.03.0436		Small Signal NPN any
	Q5	50.03.0515	8C307B	Small Signal PNP any
	Q6	50.03.0436	BC237B	Small Signal NPN any
	Q7	50.03.0436	BC237B	Small Signal NPN any
	Q8	50.03.0351	BC327-25	Small Signal PNP
	Q9 Q10	50.03.0351 50.03.0515	BC327-25 BC307B	Small Signal PNP Small Signal PNP any
	Q11	50.03.0436	BC2378	Small Signal NPN any
	Q12	50.03.0515	BC3078	Small Signal PNP any
	Q13	50.03.0436	BC237B	Small Signal MPN any
	014	50.03.0436	BC237B	Small Signal NPN any
	015 R1	50.03.0515 57.11.3223	8C307B 22 k0hm	Small Signal PMP any 2%, 0.25%, MF
	R2	57.11.3223	22 kOrm	2%, 0.25%, MF
	R3	57.11.3471	470 Ohm	2%, 0.25%, MF
	R4	57.11.3223	22 k0hm	2%, 0.25W, MF
	R5	57.11.3223	22 kOhm	2%, 0.25W, MF
	R6	57.11.3222 57.11.3473	2.2 kOhm 47 kOhm	2%, 0.25W, MF 2%, 0.25W, MF
	R7 R8	57.11.3223	22 kOha	2%, 0.25W, MF
	R9	57.11.3223	22 kOha	2%, 0.25W, MF
	R10	57.11.3222	2.2 kOhm	2%, 0.25W, MF
	R11	57.11.3223	22 k0hm	2%, 0.25W, MF
	R12	57.11.3471	470 Ohie	2%, 0.25%, MF 2%, 0.25%, MF
	R14	57.11.3471 57.11.3223	470 Ohm 22 kOhm	2%, 0.25%, MF 2%, 0.25%, MF
	R15	57.11.3103	10 kOhm	2%, 0.25%, MF
	R16	57.11.3103	10 k0hm	2%, 0.25W, MF
	R17	57.11.3103	10 kOhm	2%, 0.25%, MF
	R18	57.11.3103	10 k0hm	2%, 0.25W, MF
	R19 R20	57.11.3473 57.11.3222	47 kOhm 2.2 kOhm	2%, 0.25%, MF 2%, 0.25%, MF
	R21	57.11.3105	2.2 kUma 1 HOhms	2%, 0.25%, MF
	R22	57.11.3222	2.2 k0hm2	2%, 0.25W, MF
	R23	57.11.3222	2.2 kOhm	2%, 0.25M, MF
	R24	57.11.3103	10 kOhm	2%, 0.25W, MF
	R25	57.11.3103 57.11.3102	10 k0hm 1 k0hm	2%, 0.25W, MF 2%, 0.25W, MF
	R26 R27	57.11.3102	1 kome 1 kome	2%, 0.25W, MF 2%, 0.25W, MF
	R28	57.11.3473	47 kOhm	2%, 0.25W, MF
	R29	57.11.3223	22 kOtm	2%, 0.25W, MF

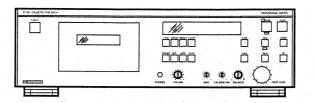
```
57.11.3223
 R....30
                                                      2%, 0.25%,
2%, 0.25%,
R....31
R....32
                57.11.3102
                                      1 kOhm
                57.11.3102
R....33
R....34
                                      1 k0hm
1 k0hm
                                                      2%, 0.25%,
2%, 0.25%,
2%, 0.25%,
                57.11.3102
                57.11.3102
R....35
                57.11.3223
                                     22 k0hm
                57.11.3223
                                     22 kOhm
                                                      2%, 0.25W,
 R....36
                                                      2%, 0.25W, MF
2%, 0.25W, MF
R....37
                57,11,3682
                                   6.8 k0hm
R....38
                57.11.3473
                                    47 kOhan
R....39
R....40
                                    47 k0hm
47 k0hm
                                                      2%, 0.25W, MF
2%, 0.25W, MF
                57.11.3473
                57.11.3473
                                                      2%, 0.25W, MF
2%, 0.25W, MF
R....41
R....42
                57.11.3473
57.11.3102
                                    47 k0hm
1 k0hm
               57.11.3102
57.11.3102
                                      1 kOhm
1 kOhm
                                                      2%, 0.25%, MF
2%, 0.25%, MF
R....43
R....44
               57.11.3102
57.11.3102
                                      1 k0he
1 k0he
                                                      2%, 0.25W,
2%, 0.25W,
R....45
R....46
R....47
                57.11.3102
                                      1 kOhm
1 kOhm
                                                      2%, 0.25W, MF
2%, 0.25W, MF
                57.11.3102
R....48
                                      1 k0hm
1 k0hm
                                                     24, 0.25W,
24, 0.25W,
R.:..49
R....50
               57.11.3102
57.11.3102
               57.11.3102
57.11.3471
                                  1 kOhm
470 Ohm
                                                     2%, 0.25W, MF
2%, 0.25W, MF
R....51
R....52
R....53
R....54
               57.11.3102
57.11.3222
                                  1 k0hm
2.2 k0hm
                                                     2%, 0.25W,
2%, 0.25W,
               57.11.3471
57.11.3473
                                   470 Ohm
47 kOhm
                                                      2%, 0.25W, MF
2%, 0.25W, MF
R....55
R....56
R....57
R....58
               57.11.3473
57.11.3222
                                  47 kOhm
2.2 kOhm
                                                     2%, 0.25W,
2%, 0.25W,
                                  2.2 kOhm
2.2 kOhm
                                                     2%, 0.25W, MF
2%, 0.25W, MF
R....59
                57.11.3222
R....60
                57.11.3222
                                                     2%, 0.25%, NF
R....61
                57.11.3223
                                    22 k0hm
                57.11.3223
                                    22 k0hm
R....62
R....63
                57.11.3473
                                     47 k0hm
                                    47 kOhm
10 kOhm
                57.11.3473
R....64
R....65
                57.11.3103
                                  10 kOhm
10 kOhm
22 kOhm
2.2 kOhm
68 kOhm
68 kOhm
R....66
                57.11.3103
R....67
                57.11.3223
R....68
                57.11.3222
               57.11.3683
57.11.3683
R....69
R....70
               57.88.4473
57.88.4473
                                                            8*0.125W
8*0.125W
RZ....1
                                    47 kOhm
                                    47 k0ha
                                                      24,
RZ....2
                                                     2%,
2%,
1*a
RZ....3
                57.88.4473
                                                            8*0.125W
8*0.125W
                57.88.4473
                                    47 k0hm
RZ....4
                55.99.0158
s....1
S.....2
S.....3
               55.99.0158
                                                      1*a
                                                      1*a
1*a
                55.99.0158
               55.99.0158
S....4
               55.99.0158
55.99.0158
                                                      1*a
1*a
S....5
$.....6
                                                      1*a
1*a
1*a
               55.99.0158
55.99.0158
S.....7
S.....8
s....9
                55.99.0158
                                                      1*a
2*u
2*u
2*u
2*u
I*a
S....10 1.721.790.05
$....11 1.721.790.05
S....12 1.721.790.05
S....13
                                                      i*a
i*a
S....14
S....15
               55.99.0158
S....16
              55.99.0158
                                                      1*a
W.....5 1.721.790.94
                                                      Flat Cable
                                                     CERANIC OSCILLATOR 6.0 MHz
Y.....1 1.721.490.25
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#### 00 PS 91/10/04

EL-Electrolytic, CER-Ceramic, PETP-Polyester, SI-Silicon, MF-Metalfilm

Manufacturer: MS=National Semiconductors, TI=Texas Instruments
MOT=Motorola, Ph=Philips, St=Studer, SGT=SGS Thomson

# REVOX C115



## PROFESSIONAL CASSETTE TAPE DECK

SCHEMATIC DIAGRAM
BLOCK DIAGRAM
CONNECTION DIAGRAM
PARTS LOCATION (Components Side)

